

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Gribbin  
Appl. No. :  
Filed : April 1, 2004  
Title : ROTOR FOR A COMBINE HARVESTER

Grp./A.U. :  
Examiner :

Docket No.: 14663

Honorable Commissioner of Patents  
Alexandria, VA 22313-1450

Sir:

**PTO CUSTOMER NO. 000293**  
CLAIM OF PRIORITY

We file herewith a certified South African patent application, bearing application number 2003/6227, which was filed on August 12, 2003, and on which the above U.S. application was based. We ask that this U.S. application be awarded priority rights in accordance with Section 119 of Title 35, Patents, (Public Law 593).

Respectfully submitted,

DOWELL & DOWELL, P.C.

By 

Ralph A. Dowell, Reg. No. 26,868

Date: April 1, 2004

DOWELL & DOWELL, P.C.

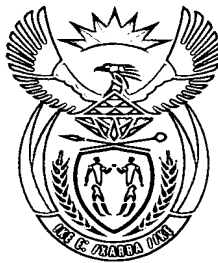
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# Sertifikaat



# Certificate

PATENT KANTOOR  
DEPARTEMENT VAN HANDEL  
EN NYWERHEID

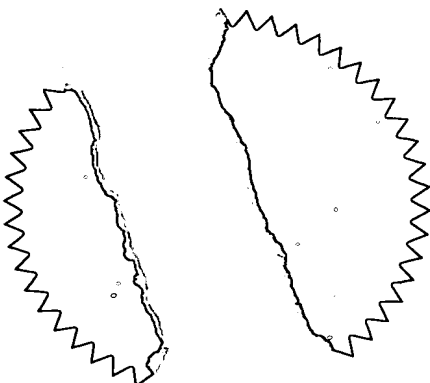
PATENT OFFICE  
DEPARTMENT OF TRADE AND  
INDUSTRY

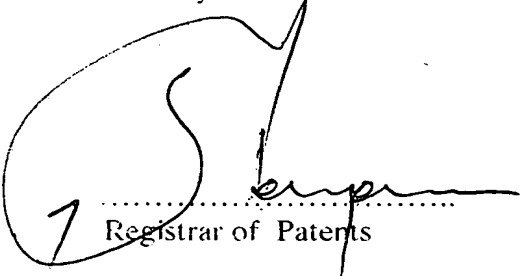
Hiermee word gesertifiseer dat  
This is to certify that

the documents attached hereto are true copies of the Forms  
P2, P6, provisional specification and drawing of South African Patent  
Application No. 2003/6227 in the name of Gribbin, Stanley James

Filed : 12 August 2003  
Entitled : Rotor for a Combine  
Harvester

Gieteken te **PRETORIA** in die Republiek van Suid-Afrika, hierdie 29<sup>th</sup> dag van March 2004  
Signed at in the Republic of South Africa, this day of



  
Registrar of Patents

REPUBLIC OF SOUTH AFRICA			REGISTER OF PATENTS			PATENTS ACT, 1978		
OFFICIAL APPLICATION			LODGING DATE: PROVISIONAL			ACCEPTANCE DATE		
21.	01.	2003/6227	22	12 AUGUST 2003		47		
INTERNATIONAL CLASSIFICATION			LODGING DATE: COMPLETE			GRANTED DATE		
51			23					
FULL NAME(S) OF APPLICANT(S)/PATENTEE(S)								
71	GRIBBIN, STANLEY JAMES							
APPLICANTS SUBSTITUTED:						DATE REGISTERED		
71								
ASSIGNEE(S)						DATE REGISTERED		
71								
FULL NAME(S) OF INVENTOR(S)								
72	GRIBBIN, STANLEY JAMES							
PRIORITY CLAIMED			COUNTRY		NUMBER		DATE	
N.B. Use International abbreviation for country (see Schedule 4)			33	NIL	31	NIL	32	NIL
TITLE OF INVENTION								
54	ROTOR FOR A COMBINE HARVESTER							
ADDRESS OF APPLICANT(S)/PATENTEE(S)								
276 STATION ROAD, BETHAL, 2310, NORTHERN PROVINCE, SOUTH AFRICA								
ADDRESS FOR SERVICE						S & F REF		
74	SPOOR & FISHER, SANDTON					PA135772/P		
PATENT OF ADDITION NO.				DATE OF ANY CHANGE				
61								
FRESH APPLICATION BASED ON				DATE OF ANY CHANGE				

**APPLICATION FOR A PATENT**AND ACKNOWLEDGEMENT OF RECEIPT  
(Section 30 (1) - Regulation 22)

R 0060.00

HASR 711

The granting of a patent is hereby requested by the undermentioned applicant on the basis of the present application filed in duplicate

OFFICIAL APPLICATION NO.

21 01 2003/5227

S &amp; F REFERENCE

PA135772/P

FULL NAME(S) OF APPLICANT(S)

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ADDRESS(ES) OF APPLICANT(S)

276 STATION ROAD, BETHAL, 2310, NORTHERN PROVINCE, SOUTH AFRICA

TITLE OF INVENTION

54 ROTOR FOR A COMBINE HARVESTER

THE APPLICANT CLAIMS PRIORITY AS SET OUT ON THE ACCOMPANYING FORM P.2. THE EARLIEST PRIORITY CLAIM IS:

COUNTRY: NIL

NUMBER: NIL

DATE: NIL

THIS APPLICATION IS FOR A PATENT OF ADDITION TO PATENT APPLICATION NO.

21 01

THIS APPLICATION IS A FRESH APPLICATION IN TERMS OF SECTION 37 AND IS BASED ON APPLICATION NO.

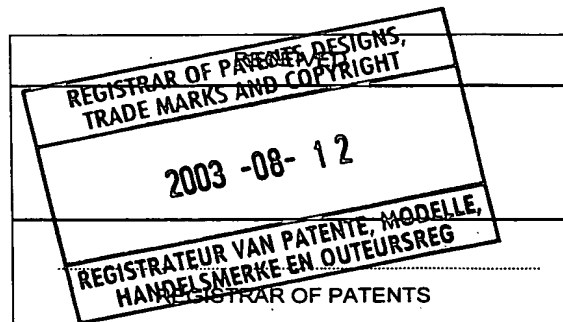
21 01

THIS APPLICATION IS ACCOMPANIED BY:

- ☒ 1. A single copy of a provisional specification of 5 pages.
- ☒ 2. Drawings of 1 sheet.
- ☐ 3. Publication particulars and abstract (Form P.8 in duplicate).
- ☐ 4. A copy of Figure of the drawings (if any) for the abstract.
- ☐ 5. Assignment of invention.
- ☐ 6. Certified priority document.
- ☐ 7. Translation of the priority document.
- ☐ 8. Assignment of priority rights.
- ☐ 9. A copy of the Form P.2 and the specification of S.A. Patent Application No.
- ☐ 10. Declaration and power of attorney on Form P.3.
- ☐ 11. Request for ante-dating on Form P.4.
- ☐ 12. Request for classification on Form P.9.
- ☒ 13. Form P.2 in duplicate.
- ☐ 14. Other.

74 ADDRESS FOR SERVICE: SPOOR &amp; FISHER, SANDTON

Dated: 12 August 2003

  
 SPOOR & FISHER  
 PATENT ATTORNEYS FOR THE APPLICANT(S)


REPUBLIC OF SOUTH AFRICA  
PATENTS ACT, 1978

## PROVISIONAL SPECIFICATION

(Section 30(1) – Regulation 27)

OFFICIAL APPLICATION NO.

LODGING DATE

21	01 ° °	2003 / 6 2 2 7
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22	12 AUGUST 2003
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FULL NAMES OF APPLICANTS

71	GRIBBIN, STANLEY JAMES
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FULL NAMES OF INVENTORS

72	GRIBBIN, STANLEY JAMES
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TITLE OF INVENTION

54	ROTOR FOR A COMBINE HARVESTER
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## **ROTOR FOR A COMBINE HARVESTER**

### **BACKGROUND OF THE INVENTION**

THIS invention relates to a rotor for a combine harvester.

Combine harvesters are used to reap and thresh a grain crop in order to remove the grain from the ears of the grain crop. Typical rotors used in these combine harvesters are fitted with a plurality of thresher elements for threshing the crop material as the material passes through the harvester. Significantly, however, these thresher elements extend along the entire length of the rotor, which has been found to be overly aggressive when threshing the crop material, thus tending to damage the grain itself.

It would therefore be desirable to provide a rotor for a combine harvester that addresses the abovementioned problem.

### **SUMMARY OF THE INVENTION**

According to the invention there is provided a rotor for a combine harvester, the rotor comprising:

a front threshing portion to which a plurality of thresher elements are fitted for threshing crop material entering the combine harvester; and

a rear, helical portion for driving the threshed material rearwardly through the combine harvester,

the rotor being housed, and arranged to rotate, within a cylindrical housing defined within the combine harvester, so that as the crop material passes between the rotor and the housing it gets threshed.

Conveniently, an impeller blade is fitted to the front of the rotor for facilitating the entry of the crop material into the cylindrical housing.

Preferably, a plurality of pins are attached to the helical portion of the rotor to drive the threshed material rearwardly through the combine harvester.

Typically, the length of the front threshing portion is approximately 1.143 m, and the length of the rear helical portion is approximately 1.114 m.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

**Figure 1** shows a partially cross-sectional side view of a conventional combine harvester fitted with a rotor according to the present invention; and

**Figure 2** shows a detailed perspective view of the rotor of the present invention.

**DESCRIPTION OF A PREFERRED EMBODIMENT**

Referring to the figures, a rotor 10 is shown fitted within a conventional combine harvester 12. The combine harvester 12 comprises a front, reaping arrangement 14 for cutting and collecting grain crop material as the harvester 12 is being driven through a crop field.

A feeder arrangement 16 is located behind the reaping arrangement 14 for feeding the cut crop material to a threshing arrangement 18 within the harvester 12. The threshing arrangement 18 comprises the rotor 10, which is arranged to rotate within a cylindrical housing 20 so that as the crop material passes between the rotor 10 and the housing 20 it gets threshed in order to remove the grain from the ears of the grain crop.

Significantly, the rotor 10 comprises a front portion 22, to which a plurality of thresher elements 24 are fitted for threshing the crop material, and a rear, helical portion 26 for driving the threshed material rearwardly through the housing 20.

An impeller blade 28 is fitted to the front of the rotor 10 for facilitating the entry of the crop material into the cylindrical housing 20.

Preferably, a plurality of pins 30 are attached to the helical portion 26 of the rotor 10 to drive the threshed material rearwardly through the combine harvester 12.

The length of the front threshing portion 22 is approximately 1.143 m, and the length of the rear helical portion 26 is approximately 1.114 m.

The primary advantage of the present invention is that the thresher elements only extend over a portion of the length of the rotor, with the remaining portion simply taking the form of a helical arrangement for pushing the threshed crop material towards the rear of the harvester.

As indicated above, a plurality of pins are attached to the helical portion to drive the threshed material rearwardly through the combine harvester.

DATED THIS 12<sup>TH</sup> DAY OF AUGUST 2003

A handwritten signature in black ink, appearing to be "S. Fisher", written in a cursive style.

SPOOR & FISHER

APPLICANT'S PATENT ATTORNEYS

2003/6227

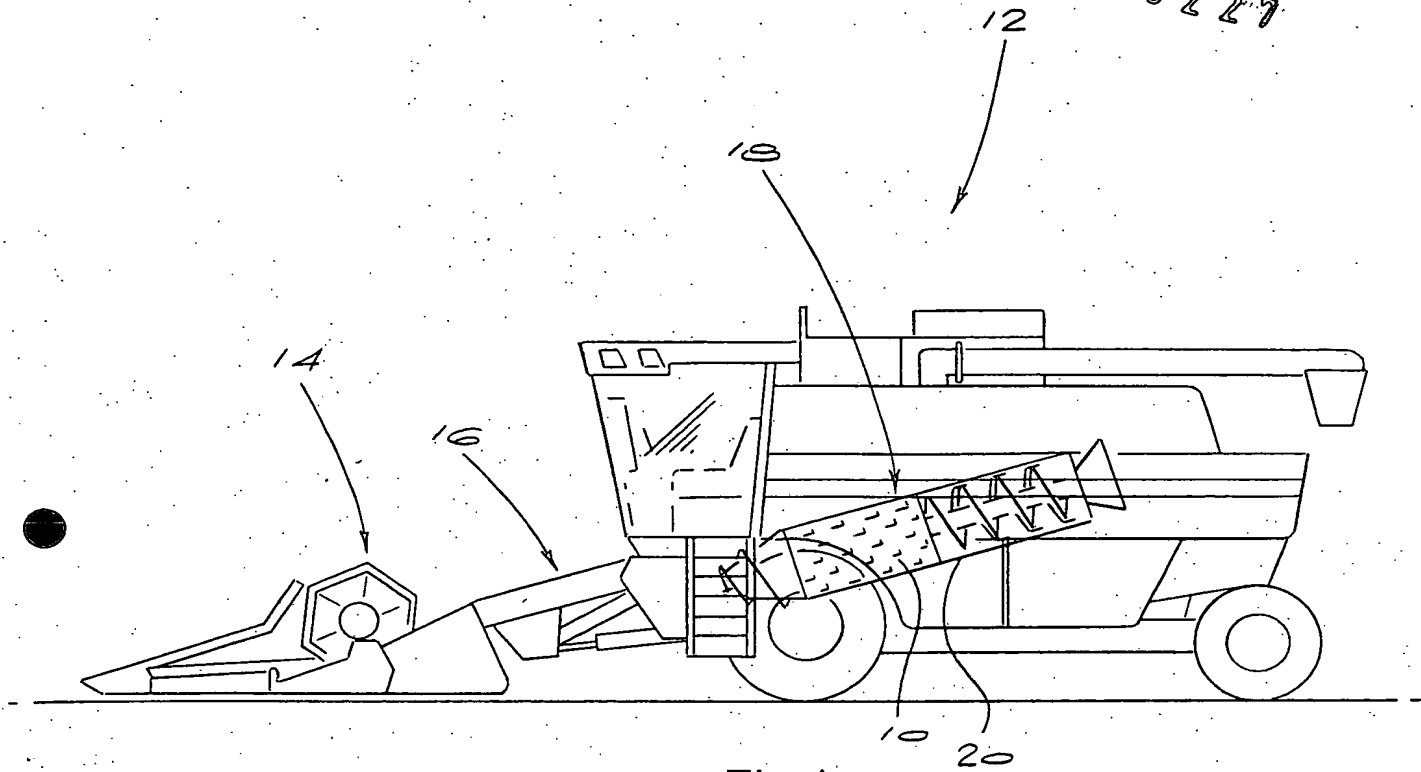


Fig.1

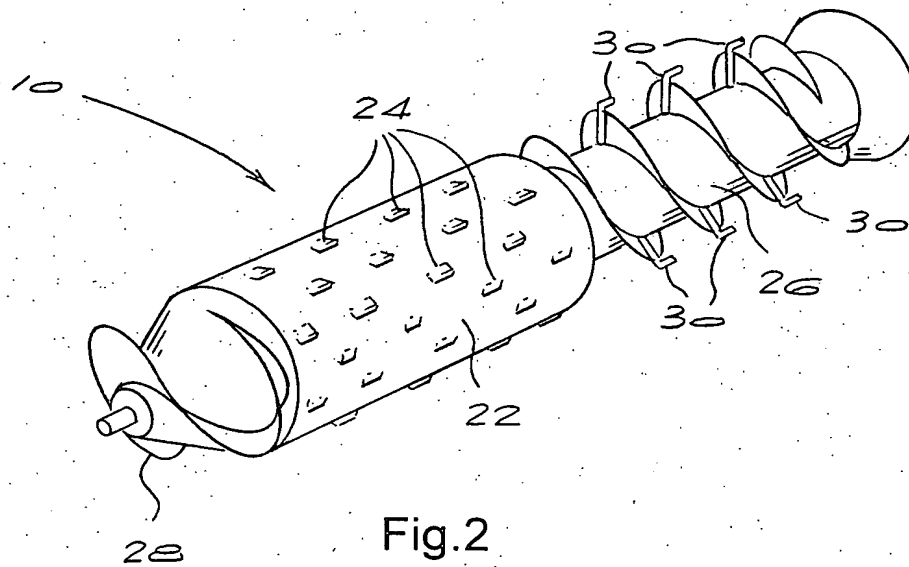


Fig.2